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Date: September 8, 1995

To: District Ranger, Almanor Ranger District, Lassen National Forest

Subject: Review of marking guidelines for the Barkley Fire Salvage Project NE95-16

On August 29, 1995, at the request of Phil Tuma and Judy Welles, I conducted a field review of the marking guidelines in the Barkley Fire Salvage Units. We visited Units 7, 3 and 4. The following are my observations and concerns.

The marking guidelines to determine survival of fire-damaged trees in the Barkley fire were developed by W. Wagener (Wagener 1961). They are based on information collected on 30 burns on 12 National Forests and in Yosemite National Park. These guidelines are used to determine what trees have suffered sufficient fire damage that they are eminently going to die with 2-4 years post-fire. Within this time period, trees can die as a direct result of the fire damage or as a result of successful bark beetle attacks. Fire-damaged trees are weakened physiologically, and for 2 or more years are more attractive to bark beetles than normal trees (Miller and Keen 1960). Therefore, trees marked according to these guidelines may be expected to die within the next few years.

The objective as stated in the marking guidelines section of the EIS Appendix (B1) is as follows: In each of the action alternatives which involves salvage harvesting, the prescriptions are designed to retain all trees that have a reasonable chance of surviving for more than six months from the time that a salvage harvest would occur. Wagener's marking guidelines were never meant to be applied for short term (6 month) fire salvage marking. There is a conflict within the EIS between when the trees are expected to die (within 6 months) in the marking guideline objectives and when they are expected to die according to the marking guidelines being used (2-4 years). I recommend continuing to use Wagener's guidelines for salvage marking for the Barkley fire because Wagener's guidelines are very reliable over a 2-4 year period, they are the best information we have for salvage marking trees damaged by fire, and this will probably be the only entry into these units for a long time. However, I think is extremely important for our personnel and our publics to understand that some trees that will be marked and removed as salvage are not expected to be dead within six months. If 6 month marking guidelines are going to be used, then new guidelines need to be written and the salvage units need to be marked again. It has already been a year since the fire, so any trees that have survived this long would not have meant any 6 month marking guideline. There is some flexibility within this since the EIS says that the 6 months starts forward from when the harvest would occur.

Wagener's fire salvage guidelines use 3 criteria to determine survivability of fire scorched trees: cambium injury, live foliage, and green foliage. It was my observation in the field that bark scorch had been used to determine cambium injury. The degree and location of bark scorching provides some indication of where to look for cambium injury, but for each area the relationship needs to be checked by exploratory sampling through the bark into the cambium. Enough trees should be sampled to provide for reasonably accurate judgements regarding cambium injury of the trees within a specific area. I demonstrated this technique in the field and we observed several trees that had previously been marked that had very little or no cambium damage. We also observed some trees that had not been marked as salvage that had little live cambium remaining. These examples demonstrate the importance of determining cambium damage by sampling the cambium of several trees when implementing these marking guidelines.

If you have any questions regarding this letter, please call me at the Supervisors Office ext. 6667. I can provide additional training for the marking crew, assist with public field meetings or provide input to marking guidelines as needed. Please feel free to contact me.



Sheri Smith
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cc: J.Withroe
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